

IN THE CLAIMS

Claim 1 (Withdrawn): An improved gelatinous composition comprising: a non-tacky crystal gel formed from

(I) 100 parts by weight of one or more linear, branched, star-shaped (radial), or multiarm block copolymers or mixtures of two or more such block copolymers, said block copolymers having one or more midblocks, said midblocks comprising one or more substantially crystalline polyethylene midblocks and with (I) one or more amorphous midblocks or (ii) without amorphous midblocks, in combination with or without a selected amount of one or more of (II) a polymer or copolymer, and selected amounts of (III) a plasticizing oil sufficient to achieve gel rigidities of from less than about 2 gram Bloom to about 1,800 gram Bloom, with the proviso when said (I) block copolymers without any amorphous midblocks are combined with at least one block copolymer having at least one amorphous midblock, that said midblocks of said (I) block copolymers forming said crystal gel comprises a selected amount of crystallinity sufficient to exhibit a melting endotherm of at least about 40°C as determined by DSC curve.

Claim 2 (Withdrawn): An improved gelatinous composition comprising: a non-tacky crystal gel formed from

(I) 100 parts by weight of one or more of the same block copolymers or mixtures of two or more of a different block copolymers, said block copolymers having the formula poly(styrene-ethylene-ethylene-butylene-styrene), poly(styrene-ethylene-ethylene-propylene-styrene), poly(styrene-ethylene-ethylene-butylene₂₅-styrene), poly(styrene-ethylene-ethylene-propylene-propylene-ethylene-styrene), poly(styrene-ethylene-propylene-ethylene-styrene), poly(styrene-ethylene-propylene-ethylene-ethylene-propylene-styrene), poly(styrene-ethylene-ethylene-butylene)_n, poly(styrene-ethylene-ethylene-ethylene-propylene-propylene)_n, poly(styrene-ethylene-ethylene-butylene₂₅)_n, poly(styrene-ethylene-ethylene-propylene)_n, poly(styrene-ethylene-ethylene-propylene-ethylene)_n, poly(styrene-ethylene-ethylene-propylene-ethylene-ethylene)_n, poly(styrene-ethylene-propylene-ethylene-ethylene-ethylene)_n, midblocks comprising one or more substantially crystalline polyethylene midblock segment(s), wherein subscript n is two or more; wherein said (I) block copolymers in combination with or without a selected amount of one or more of (II) a polymer or copolymer, and selected amounts of (III) a plasticizing oil sufficient to

achieve a gel rigidity of from less than about 2 gram Bloom to about 1,800 gram Bloom, wherein said gel is capable of exhibiting greater tear resistance or greater fatigue resistance than a gel having a corresponding rigidity made from a substantially amorphous poly(styrene-ethylene-butylene-styrene) or poly(styrene-ethylene-propylene-styrene) block copolymers having substantially non-crystalline polyethylene midblock segments.

Claim 3 (Withdrawn): A gel according to claim 1 or 8, wherein said gel exhibits in differential scanning calorimeter (DSC) a melting endotherm of about 25°C, 28°C, 29°C, 30°C, 31°C, 32°C, 33°C, 34°C, 35°C, 36°C, 37°C, 38°C, 39°C, 40°C, 41°C, 42°C, 43°C, 44°C, 45°C, 46°C, 47°C, 48°C, 49°C, 50°C, 51°C, 52°C, 53°C, 54°C, 55°C, 56°C, 57°C, 58°C, 59°C, 60°C, 61°C, 62°C, 63°C, 64°C, 65°C, 66°C, 67°C, 68°C, 69°C, 70°C, 71°C, 72°C, 73°C, 74°C, 75°C, 76°C, 77°C, 78°C, 79°C, 80°C, 90°C, 100°C, 110°C, or 120°C.

Claim 4 (Withdrawn): A gel according to claim 1 or 2, wherein said gel exhibits in differential scanning calorimeter (DSC) a melting endotherm of about 25°C, 28°C, 29°C, 30°C, 31°C, 32°C, 33°C, 34°C, 35°C, 36°C, 37°C, 38°C, 39°C, 40°C, 41°C, 42°C, 43°C, 44°C, 45°C, 46°C, 47°C, 48°C, 49°C, 50°C, 51°C, 52°C, 53°C, 54°C, 55°C, 56°C, 57°C, 58°C, 59°C, 60°C, 61°C, 62°C, 63°C, 64°C, 65°C, 66°C, 67°C, 68°C, 69°C, 70°C, 71°C, 72°C, 73°C, 74°C, 75°C, 76°C, 77°C, 78°C, 79°C, 80°C, 90°C, 100°C, 110°C, or 120°C.

Claim 5 (currently amended): A composite comprising: a gel denoted by G, being in adherent contact, adhesive contact, clinging contact, fastening contact, sticking contact, or physical contact with a selected material M forming the combination G_nM_n , $G_nM_nG_n$, $M_nG_nM_n$, $M_nG_nG_nM_n$, $G_nM_nM_nG_n$, $G_nM_nG_nM_nG_n$, $M_nM_nM_nG_n$, $M_nM_nM_nG_nM_nM_n$ or a permutation of one or more of said G_n with one or more said M_n ; wherein when n is a subscript of M, n is the same or different selected from the group consisting of paper, foam, plastic, fabric, metal, metal foil, metallic metallic flakes, concrete, wood, glass, glass fibers, ceramics, synthetic resin, synthetic fibers or refractory materials; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity; said gel comprising:

(i) 100 parts by weight of one or more block copolymers selected from poly(styrene-ethylene-ethylene-butylene-styrene), poly(styrene-ethylene-ethylene-

propylene-styrene), poly(styrene-ethylene-ethylene-butylene₂₅-styrene), poly(styrene-ethylene-propylene-ethylene-styrene), poly(styrene-ethylene-ethylene-butylene)_n, poly(styrene-ethylene-ethylene-propylene)_n, poly(styrene-ethylene-ethylene-butylene₂₅)_n, poly(styrene-ethylene-propylene-ethylene)_n, or mixtures thereof, wherein subscript n is two or more;

(ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and greater; said gel characterized by a gel gram Bloom of about 2 gram to about 1,800 gram Bloom; and in combination with or without

(iii) a selected amount of one or more polymers or copolymers comprising poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(ethylene-styrene), poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, or polyethylene, wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; said gel having greater tear resistance than gels having corresponding rigidity made from a poly(styrene-ethylene-butylene-styrene) or poly(styrene-ethylene-propylene-styrene) block copolymers.

Claim 6 (currently amended): A composite comprising: a gel denoted by G, being in adherent contact, adhesive contact, clinging contact, fastening contact, sticking contact, or physical contact with a selected material M or in combination with one or more of the same gel or a different gel forming a composite of the combination G_nG_n, G_nG_nG_n, G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nG_nM_nM_n, G_nM_nM_nG_n, G_nG_nM_nG_nM_nG_n, G_nM_nG_nM_nM_n, M_nG_nM_nG_nM_nG_n, G_nG_nM_nM_nG_n, G_nG_nM_nG_nM_n, G_nG_nM_nG_nM_nG_n, G_nM_nG_nM_nG_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_nM_n or a permutation of one or more of said G_n with one or more M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of paper, foam, plastic, fabric, metal, metal foil, concrete, wood, glass, glass fibers, ceramics, synthetic resin, synthetic fibers or refractory materials; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity; said gel comprising:

(i) 100 parts by weight of one or more block copolymers selected from

poly(styrene-ethylene-ethylene-butylene-styrene), poly(styrene-ethylene-propylene-styrene), poly(styrene-ethylene-ethylene-butylene₂₅-styrene), poly(styrene-ethylene-propylene-ethylene-styrene), poly(styrene-ethylene-ethylene-butylene)_n, poly(styrene-ethylene-ethylene-propylene)_n, poly(styrene-ethylene-ethylene-butylene₂₅)_n, poly(styrene-ethylene-propylene-ethylene)_n, or mixtures thereof, wherein subscript n is two or more;

(ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having an average molecular weight of about 200 and greater; said gel characterized by a gel gram Bloom of about 2 gram to about 1,800 gram Bloom; and in combination with or without

(iii) a selected amount of one or more polymers or copolymers comprising poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene), poly(ethylene-styrene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, or polyethylene, wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; said gel having greater fatigue resistance than gels having corresponding rigidity made from a poly(styrene-ethylene-butylene-styrene) or poly(styrene-ethylene-propylene-styrene) block copolymers.

Claim 7 (withdrawn): A gel according to claim 1 or 2, wherein said gel being formed into a gel hand exercising grip, a gel shape floss suitable for use as a dental floss, a gel crutch cushion, a gel cervical pillow, a gel bed wedge pillow, a gel leg rest, a gel neck cushion, a gel mattress, a gel bed pad, a gel elbow pad, a gel dermal pad, a gel wheelchair cushion, a gel helmet liner, a gel cold and hot pack, a gel exercise weight belt, a gel traction pad or belt, a gel cushion for splints, a gel sling, a gel brace for the hand, wrist, finger, forearm, knee, leg, clavicle, shoulder, foot, ankle, neck, back, rib, a gel sole for orthopedic shoe, a gel shaped toy article, a gel optical cladding for cushioning optical fibers from bending stresses, a gel swab tip, a gel fishing bate, a gel seal against pressure, a gel thread, a gel strip, a gel yarn, a gel tape, a weaved gel cloth, a gel fabrics, a gel balloon for valvuloplasty of the mitral valve, a gel trointestinal balloon dilator, a gel esophageal balloon dilator, a gel dilating balloon catheter use in coronary angiogram, a gel condom, a gel toy balloon,

a gel surgical and examination glove, a self sealing enclosures for splicing electrical and telephone cables and wires, a gel film, or a gel liner.

Claim 8 (previously amended): A composite according to claim 5, wherein said composite being formed into a gel hand exercising grip, a gel shape floss suitable for use as a dental floss, a gel crutch cushion, a gel cervical pillow, a gel bed wedge pillow, a gel leg rest, a gel neck cushion, a gel mattress, a gel bed pad, a gel elbow pad, a gel dermal pad, a gel wheelchair cushion, a gel helmet liner, a gel cold and hot pack, a gel exercise weight belt, a gel traction pad or belt, a gel cushion for splints, a gel sling, a gel brace for the hand, wrist, finger, forearm, knee, leg, clavicle, shoulder, foot, ankle, neck, back, rib, a gel sole for orthopedic shoe, a gel shaped toy article, a gel optical cladding for cushioning optical fibers from bending stresses, a gel swab tip, a gel fishing bait, a gel seal against pressure, a gel thread, a gel strip, a gel yarn, a gel tape, a weaved gel cloth, a gel fabrics, a gel balloon for valvuloplasty of the mitral valve, a gel trointestinal balloon dilator, a gel esophageal balloon dilator, a gel dilating balloon catheter use in coronary angiogram, a gel condom, a gel toy balloon, a gel surgical and examination glove, a self sealing enclosures for splicing electrical and telephone cables and wires, a gel film, or a gel liner.

Claim 9 (currently amended): A composite of claim 6 shaped in the form of a gel liner for lower limb or above the knee amputee prosthesis formed by injection molding, extruding, spinning, casting, or dipping of one or more said gel.

Claim 10 (currently amended): A composite of claim 5 shaped in the form of a gel liner for lower limb or above the knee amputee prosthesis formed by injection molding, extruding, spinning, casting, or dipping of one or more said gel.

Claim 11 (currently amended): A composite comprising a gel G_n with a selected material M_n ; said gel formed from

(I) 100 parts by weight of one or more linear, branched, star-shaped (radial), or multiarm block copolymers or mixtures of two or more such block copolymers, said block copolymers having one or more midblock segments, said midblock segments comprising one or more polyethylene segments and with

- (i) one or more amorphous midblocks or
- (ii) without amorphous midblocks, and in combination with or without a

selected amount of one or more

(II) polymers or copolymers, and selected amounts of

(III) one ~~one or~~ or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having an average molecular weight of about 200 and greater; said plasticizing oil(s) being of sufficient amount to achieve gel rigidities of from less than about 2 gram Bloom to about 1,800 gram Bloom, with the proviso when said (I) block copolymers without any amorphous midblock segments are combined with at least one block copolymer having at least one amorphous midblock segment(s), that said midblock segment(s) of said (I) block copolymers forming said gel comprises a polyethylene midblock segment; said (II) polymer or copolymer selected from poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene), poly(ethylene-styrene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, or polyethylene, wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_nM_nG_n, G_nG_nM_nG_nM_n, G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with ~~a~~ one or more ~~said~~ material M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity; said G_n and M_n combination(s) being in one or more the same or different selected adherent contact, adhesive contact, clinging contact, fastening contact, sticking contact, or physical contact.

Claim 12 (currently amended): A composite comprising a gel G_n with a selected material M_n, said gel formed from

(i) 100 parts by weight of one or more block copolymers of poly(styrene-ethylene-ethylene-propylene-styrene), having a greater tear resistance than a gel of corresponding rigidity made from a poly(styrene-ethylene-propylene-styrene) block

copolymer, wherein said (i) block copolymer is a high viscosity copolymer having a viscosity value at 5 weight percent solution in toluene at 30°C of about 90 mPa•S and higher which corresponds to a viscosity at 10 weight percent of about 5800 mPa•S and higher which corresponds to a viscosity at 20 weight percent solids solution in toluene at 25°C of about 80,000 mPa•S and higher, and from

(ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater; said gelatinous elastomer compositions characterized by a gel gram Bloom rigidity of about 20 to about 800 gram bloom; and in combination with or without

(iii) a selected amount of one or more polymers or copolymers of poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-styrene), poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, or polyethylene, wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_nG_nM_n, G_nM_nG_nM_n, G_nM_nG_nM_nM_n, M_nG_nM_nG_nM_n, G_nG_nM_nM_nG_n, G_nG_nM_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with one or more M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, metallic flakes, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 13 (currently amended): A composite comprising a gel G_n with a selected material M_n; said gel formed from

(i) 100 parts by weight of one or more block copolymers of poly(styrene-ethylene-ethylene-propylene-styrene), and from

(ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having an average molecular weight of less than about 200 and greater; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram

bloom; and in combination with or without

(iii) a selected amount of one or more polymers or copolymers of poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, or polyethylene, wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_nG_nM_n, G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with one or more said M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 14 (currently amended): A composite comprising a gel G_n with a selected material M_n; said gel formed from

(i) 100 parts by weight of one or more block copolymers having a polyethylene midblock of the formula poly(styrene-ethylene-ethylene-propylene-styrene) exhibiting stress induced necking at high elongations not exhibited by gels having corresponding rigidity made from a poly(styrene-ethylene-butylene-styrene) or poly(styrene-ethylene-propylene-styrene) block copolymers wherein said block copolymer is a high viscosity copolymer having a viscosity value at 5 weight percent solution in toluene at 30°C of about 90 cps and higher which corresponds to a viscosity at 10 weight percent of about 5800 cps and higher which corresponds to a viscosity at 20 weight percent solids solution in toluene at 25°C of at about 80,000 cps and higher, and from

(ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having an average molecular weight of less than about 200 to greater than about 700; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram bloom; and in combination with or without one or more of

(iii) a selected amount of ~~one or more block copolymers of~~

poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n; a selected amount of one or more diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene); a selected amount of a hydrocarbon resins including polystyrene, polypropylene, or polyethylene; a selected amount of polybutylene; a selected amount of rubbers of poly(ethylene-propylene) or poly(ethylene-butylene); a selected amount of a flame retardant; a selected amount of one or more internal and external non-adhering, non-sticking modifiers selected from amorphous silica, talc, zinc sterate, aluminum sterate, mica, and silicon dioxide; a selected amount of microspheres or aggregation of gas bubbles; a selected amount of microspheres or aggregation of gas bubbles; wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nM_n, G_nG_nM_nM_n, G_nG_nM_nG_nM_n, G_nM_nG_nG_n, G_nG_nM_n, G_nM_nG_nM_nM_n, M_nG_nM_nG_nM_nG_n, G_nG_nM_nM_nG_n, G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with one or more M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 15 (currently amended): A composite comprising a gel G_n with a selected material M_n; said gel formed from

- (i) 100 parts by weight of one or more block copolymers of poly(styrene-ethylene-ethylene-propylene-styrene), and from
- (ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram bloom; and in combination with or without one or more of
- (iii) a selected amount of ~~one or more block copolymers of~~

poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n; a selected amount of one or more diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene); a selected amount of a hydrocarbon resins including polystyrene, polypropylene, or polyethylene; a selected amount of polybutylene; a selected amount of rubbers of poly(ethylene-propylene) or poly(ethylene-butylene); a selected amount of a flame retardant; a selected amount of one or more internal and external non-adhering, non-sticking modifiers selected from amorphous silica, talc, zinc sterate, aluminum sterate, mica, and silicon dioxide; a selected amount of microspheres or aggregation of gas bubbles; wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_nG_n, G_nM_nG_nG_n, G_nG_nM_n, G_nM_nG_nM_n, M_nG_nM_nG_nM_n, G_nG_nM_nM_nG_n, G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with one or more said M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 16 (currently amended): A composite comprising a gel G_n with a selected material M_n; said gel formed from

- (i) 100 parts by weight of one or more block copolymers of poly(styrene-ethylene-ethylene-propylene-styrene), and from
- (ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram bloom; and in combination with or without one or more of
- (iii) a selected amount of ~~one or more block copolymers of~~ poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n,

poly(styrene-ethylene-propylene)_n, poly(ethylene-styrene), or poly(styrene-ethylene-butylene)n; a selected amount of one or more diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene); a selected amount of a hydrocarbon resins including polystyrene, polypropylene, or polyethylene; a selected amount of polybutylene; a selected amount of rubbers of poly(ethylene-propylene) or poly(ethylene-butylene); a selected amount of a flame retardant; a selected amount of one or more internal non-adhering, non-sticking modifiers selected from amorphous silica, talc, zinc sterate, aluminum sterate, mica, and silicon dioxide; a selected amount of microspheres or aggregation of gas bubbles; wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination G_nM_n, G_nM_nG_n, M_nG_nM_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_n G_nM_n, G_nM_nG_nG_n, G_nG_nM_nM_nM_n, M_nG_nM_nG_nM_nG_n, G_nG_nM_nM_nG_n, G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with one or more said M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 17 (currently amended): A composite comprising a gel G_n with a selected material M_n; said gel formed from

- (i) 100 parts by weight of one or more block copolymers of poly(styrene-ethylene-ethylene-propylene-styrene), and from
- (ii) about 300 to about 1,600 parts by weight of one or more plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram bloom; and in combination with or without one or more of (iii-xii):
- (iii) a selected amount of one or more block copolymers of poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, poly(ethylene-styrene), or poly(styrene-ethylene-

butylene)_n;

- (iv) a selected amount of one or more diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene);
- (v) a selected amount of a hydrocarbon resins including polystyrene, polypropylene, or polyethylene, or polybutylene;
- (vi) a selected amount of rubbers of poly(ethylene-propylene) or poly(ethylene-butylene);
- (vii) a selected amount of a flame retardant;
- (viii) a selected amount of non-adhering, non-sticking additives comprising antiblocking agents including tetrakis[methylene 3,-(3'5'-di-tertbutyl-4"-hydroxyphenyl) propionate] methane, octadecyl 3-(3",5"-di-tert-butyl-4"-hydroxyphenyl) propionate, distearyl-pentaerythritol-dipropionate, thiodiethylene bis-(3,5-tert-butyl-4-hydroxy) hydrocinnamate, (1,3,5-trimethyl-2,4,6-tris[3,5-di-tert-butyl-4-hydroxybenzyl] benzene), 4,4"-methylenebis(2,6-di-tert-butylphenol), additives of stearic acid, oleic acid, stearamide, behenamide, oleamide, erucamide, N,N"-ethylenebisstearamide, N,N"-ethylenebisoleamide, steryl erucamide, erucyl erucamide, oleyl palmitamide, stearyl stearamide, erucyl stearamide, waxes, and silicone fluids;
- (ix) a selected amount of microspheres, aggregation of gas bubbles, or blowing agents;
- (x) one or more additives selected from the group consisting of polyisobutylene including polybutene, hydrocarbon resins including polymerized mixed olefins, polyterpene, glycerol ester of rosin, pentaerythritol ester of rosin, saturated alicyclic hydrocarbon, coumarone indene, hydrocarbon, mixed olefin, alkylated aromatic hydrocarbon, polyalphamethylstyrene/vinyl toluene copolymer, polystyrene, and elastomeric diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene);
- (xi) one or more additives selected from the group consisting of hydrocarbon resins, butyl rubber, polyisobutylene, additional block copolymers of

poly(styrene-isoprene-styrene), poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, polyethylene, diblock copolymers of poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene), stearic acid, oleic acid, stearamide, behenamide, oleamide, erucamide, N,N"-ethylenbisstearamide, N,N"-ethylenbisoleamide, steryl erucamide, erucyl erucamide, oleyl palmitamide, stearyl stearamide, erucyl stearamide, waxes, and silicone fluids, magnetic particle materials, carbon blacks, silicon dioxide, silica, mica, talc, zinc sterate, amorphous silica, silica, silicon dioxide, aluminum sterate, fine metallic powder, metal flakes, clay, feldspar, glass microspheres, barium ferrite, wollastonite, hydrocarbon resins of polymerized mixed olefins, polyterpene, glycerol ester of rosin, pentaerythritol ester of rosin, saturated alicyclic hydrocarbon, coumarone indene, hydrocarbon, mixed olefin, alkylated aromatic hydrocarbon; wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination of:

(xii) ~~layers of~~ G_nM_n, M_nG_nM_n, M_nM_nG_n, M_nM_nG_nM_nM_n, G_nM_nG_n, M_nG_nG_n, G_nG_nM_n, M_nM_nM_nG_n, M_nM_nM_nG_nM_n, M_nG_nG_nM_n, G_nM_nG_nG_n, G_nM_nM_nG_n, G_nM_nM_nG_n, G_nG_nM_nM_n, G_nG_nM_nG_n, G_nG_nM_nM_n, G_nM_nG_nM_nM_n, M_nG_nM_nG_nM_n, G_nG_nM_nM_nG_n, G_nG_nM_nM_nG_n, and G_nG_nM_nG_nM_nG_n, a sequential addition or a permutation of one or more of said G_n with M_n; wherein when n is a subscript of M, n is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 18 (currently amended): A composite comprising a gel G_n with a selected material M_n, characterized by a gel gram Bloom rigidity of about 20 to about 1,800 gram bloom, said composite made from

- (i) 100 parts by weight of one or more block copolymers;
- (ii) about 300 to about 1,600 parts by weight of one or more selected ~~a~~ plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater, with or without one or more of
- (iii) an additive;

wherein said (i), (ii), and (iii) are combined to form said gelatinous elastomeric composition; wherein said block copolymer comprises A-B-A blocks having a weight average molecular weight of at least about 300,000 or more corresponding to a measurable solution viscosity at 5 wt% solids in 95% toluene at 25°C which solution remains a solid at 20 wt% solids in 80% toluene at 25°C which corresponds to a viscosity value at 5 weight percent solution in toluene at 30°C of about 90 cps and higher which corresponds to a viscosity at 10 weight percent of about 5800 cps and higher which corresponds to a viscosity at 20 weight percent solids solution in toluene at 25°C of about 80,000 cps and higher; said A being selected from monoalkenylarene polymers including polystyrene; said B being a hydrogenated polymer comprising a plurality of covalently linked conjugated diene monomers including a hydrogenated polymer of isoprene/butadiene; wherein said (i) block copolymer is of the formula poly(styrene-ethylene-ethylene-propylene-styrene);

(1) said composite having layers of G_nM_n , $G_nM_nM_n$, or $M_nM_nG_nM_nM_n$, $M_nG_nM_n$, $G_nM_nG_n$, $M_nG_nG_n$, $M_nM_nM_nG_n$, $M_nM_nM_nG_nM_n$, $M_nG_nG_nM_n$, $G_nM_nG_nG_n$, $G_nM_nM_nG_n$, $G_nG_nM_nM_n$, $G_nG_nM_nG_nM_n$, $G_nM_nG_nG_n$, $G_nG_nM_n$, $G_nM_nG_nM_nM_n$, $M_nG_nM_nG_nM_nG_n$, $G_nG_nM_nM_nG_n$, $G_nG_nM_nG_nM_nG_n$, or permutation of one or more of said G_n with one or more said M_n ; wherein said additive is:

(2) an additive selected from the group consisting of aggregation of gas bubbles formed by inert gases, and blowing agents including water,

(3) an additive selected from the group consisting of internal internal and external tack modifiers including, antiblocking agents, non-adhering, non-sticking modifiers including tetrakis[methylene 3,-(3'5'-di-tert-butyl-4"-hydroxyphenyl) propionate] methane, octadecyl 3-(3",5"-di-tert-butyl-4"-hydroxyphenyl) propionate, distearyl-pentaerythritol-dipropionate, thiodiethylene bis-(3,5-tert-butyl-4-hydroxy) hydrocinnamate, (1,3,5-trimethyl-2,4,6-tris[3,5-di-tert-butyl-4-hydroxybenzyl] benzene), 4,4"-methylenebis(2,6-di-tert-butylphenol), additives of stearic acid, oleic acid, stearamide, behenamide, oleamide, erucamide, N,N"-ethylenebisstearamide, N,N"-ethylenebisoleamide, steryl erucamide, erucyl erucamide, oleyl palmitamide, stearyl stearamide, erucyl stearamide, waxes, mica, talc, zinc sterate, amorphous silica, silica, silicon dioxide, aluminum sterate, fine metallic powder, metal flakes, and silicone fluids,

(4) an additive selected from the group consisting of polyisobutylene including polybutene, hydrocarbon resins including polymerized mixed olefins,

polyterpene, glycerol ester of rosin, pentaerythritol ester of rosin, saturated alicyclic hydrocarbon, coumarone indene, hydrocarbon, mixed olefin, alkylated aromatic hydrocarbon, polyalpha-methylstyrene/vinyl toluene copolymer, polystyrene, and elastomeric diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, or poly(styrene-ethylene-butylene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene),

(5) an additive selected from the group consisting of flame retardants,

(6) an additive selected from the group consisting of hydrocarbon resins, polyisobutylene including polybutene, additional block copolymers of poly(styrene-isoprene-styrene), poly(styrene-butadiene-styrene), poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene)_n, poly(ethylene-styrene), poly(styrene-ethylene-butylene)_n, particulate fillers, microspheres, butadiene rubber, poly(ethylene/propylene), and poly(ethylene/butylene),

(7) an additive selected from the group consisting of poly(styrene-butadiene-styrene), polystyrene, polybutylene, poly(ethylene-propylene), poly(ethylene-butylene), polypropylene, polyethylene, diblock copolymers of poly(styrene-butadiene)_n, poly(styrene-isoprene)_n, poly(styrene-ethylene-propylene), poly(styrene-ethylene-butylene), poly(styrene-ethylene-propylene)_n, poly(styrene-ethylene-butylene)_n, stearic acid, oleic acid, stearamide, behenamide, oleamide, erucamide, N,N"-ethylenebisstearamide, N,N"-ethylenebisoleamide, steryl erucamide, erucyl erucamide, oleyl palmitamide, stearyl stearamide, erucyl stearamide, waxes, and silicone fluids, and

(8) an additive selected from the group consisting of hydrocarbon resins of polystyrene, polymerized mixed olefins, polyterpene, glycerol ester of rosin, pentaerythritol ester of rosin, saturated alicyclic hydrocarbon, coumarone indene, hydrocarbon, mixed olefin, alkylated aromatic hydrocarbon, particulate fillers, and microspheres;

said gel having a hydrophobic or hydrophilic surface depending on said additive

(3) selected.

Claim 19 (currently amended): A composite comprising a gel G_n and selected

material M_n , formed from

(i) 100 parts by weight of one or more block copolymers with a polyethylene midblock segment of the formula poly(styrene-ethylene-ethylene-propylene-styrene) exhibiting a measurable amount of polyethylene crystallinity characterized by stress induced crystallinity not exhibited by gels having corresponding rigidity made from a poly(styrene-ethylene-butylene-styrene) or poly(styrene-ethylene-propylene-styrene) block copolymers wherein said block copolymer is a high viscosity copolymer having a viscosity value at 5 weight percent solution in toluene at 30°C of about 90 cps and higher which corresponds to a viscosity at 10 weight percent of about 5800 cps and higher which corresponds to a viscosity at 20 weight percent solids solution in toluene at 25°C of at about 80,000 cps and higher, and from

(ii) about 300 to about 1,600 parts by weight of one or more ~~a~~ plasticizing oils with a selected amount of at least one said plasticizing oil(s) having a viscosity of about 4 cSt at 40°C and ~~greater~~ greater; said gelatinous elastomer compositions characterized by a gel gram Bloom of about 20 to about 800 gram bloom; and in combination with or without one or more of

(iii) a selected amount of ~~one or more block copolymers of~~ poly(styrene-butadiene-styrene), $\text{poly(styrene-butadiene)}_n$, $\text{poly(styrene-isoprene)}_n$, $\text{poly(styrene-ethylene-propylene)}_n$, or $\text{poly(styrene-ethylene-butylene)}_n$; a selected amount of one or more diblock copolymers of $\text{poly(styrene-butadiene)}_n$, $\text{poly(styrene-isoprene)}_n$, $\text{poly(styrene-ethylene-propylene)}_n$, or $\text{poly(styrene-ethylene-butylene)}_n$, $\text{poly(styrene-ethylene-propylene)}$, $\text{poly(styrene-ethylene-butylene)}$; a selected amount of a hydrocarbon resins including polystyrene, polypropylene, or polyethylene; a selected amount of polybutylene; a selected amount of rubbers of $\text{poly(ethylene-propylene)}$ or $\text{poly(ethylene-butylene)}$; a selected amount of a flame retardant; a selected amount of non-adhering, non-sticking modifiers; a selected amount of microspheres or aggregation of gas bubbles; wherein said selected copolymer is a linear, radial, star-shaped, branched or multiarm copolymer, wherein n is greater than one; and wherein said composite formed from the combination $G_n M_n$, $G_n M_n G_n$, $M_n G_n M_n$, $M_n G_n G_n$, $G_n G_n M_n$, $M_n M_n M_n G_n$, $M_n M_n M_n G_n M_n$, $M_n G_n G_n M_n$, $G_n M_n G_n G_n$, $G_n M_n M_n G_n$, $G_n M_n M_n G_n$, $G_n G_n M_n M_n G_n$, $G_n G_n M_n G_n$, $G_n G_n G_n G_n$, $G_n G_n M_n$, $G_n M_n G_n M_n M_n$, $M_n G_n M_n G_n M_n G_n$, $G_n G_n M_n M_n G_n$, $G_n G_n M_n G_n M_n G_n$, a sequential addition or a permutation of one or more of said G_n with one or more said M_n ; wherein when n is a subscript of M , n

is the same or different selected from the group consisting of foam, plastic, fabric, metal, glass, ceramics, synthetic resin, or synthetic fibers; and wherein when n is a subscript of G, n denotes the same or a different gel rigidity.

Claim 20 (previously amended): A composite of claim 12, shaped in the form of a gel liner for lower extremity, above or below the knee prosthesis devices as described by one or more codes L5664, L5665, or L5667 of the American Orthotic and Prosthetic Association, said gel liner formed by injection molding, extruding, spinning, casting, or dipping of one or more said gel G_n of selected rigidity with a selected one or more said material M_n.

Claim 21 (previously amended): A composite of claim 13, shaped in the form of a gel liner for lower extremity, above or below the knee prosthesis devices as described by one or more codes L5664, L5665, or L5667 of the American Orthotic and Prosthetic Association, said gel liner formed by injection molding, extruding, spinning, casting, or dipping of one or more said gel G_n of selected rigidity with a selected one or more said material M_n.

Claim 22 (previously amended): A composite of claim 12, wherein said composite being formed into a composite article into a gel hand exercising grip, a gel shape floss suitable for use as a dental floss, a gel crutch cushion, a gel cervical pillow, a gel bed wedge pillow, a gel leg rest, a gel neck cushion, a gel mattress, a gel bed pad, a gel elbow pad, a gel dermal pad, a gel wheelchair cushion, a gel helmet liner, a gel cold and hot pack, a gel exercise weight belt, a gel traction pad or belt, a gel cushion for splints, a gel sling, a gel brace for the hand, wrist, finger, forearm, knee, leg, clavicle, shoulder, foot, ankle, neck, back, rib, a gel sole for orthopedic shoe, a gel shaped toy article, a gel optical cladding for cushioning optical fibers from bending stresses, a gel swab tip, a gel fishing bait, a gel seal against pressure, a gel thread, a gel strip, a gel yarn, a gel tape, a weaved gel cloth, a gel fabrics, a gel balloon for valvuloplasty of the mitral valve, a gel trointestinal balloon dilator, a gel esophageal balloon dilator, a gel dilating balloon catheter use in coronary angiogram, a gel condom, a gel toy balloon, a gel surgical and examination glove, a self sealing enclosures for splicing electrical and telephone cables and wires, a gel film, or a gel liner.